CLAIMS:

What is claimed is:

1. A method in a data processing system for monitoring execution of instructions, the method comprising:

responsive to identifying a routine of interest during execution of a program, associating instructions in the routine of interest with a set of indicators to form a modified routine; and

responsive to execution of an instruction in the modified routine during continued execution of the program, incrementing a counter.

2. The method of claim 1 further comprising:

associating instructions in a second routine of interest with a second set of indicators to form a second modified routine; and

responsive to execution of an instruction in the second modified routine, incrementing a second counter.

3. The method of claim 1 further comprising:

executing the program; and

identifying a routine that is used more than a threshold during execution of the program as the routine of interest.

4. The method of claim 1, wherein the set of indicators is located in a shadow memory.

5. The method of claim 1, wherein the associating step comprises:

associating an indicator is associated at least one instruction in the modified routine and wherein the indicator is located in a field within the instruction; and

continuing execution of the program without recompiling the program.

6. The method of claim 1, wherein the counter provides a value identifying a number of times that the instruction in the modified routine is executed.

7. The method of claim 1 further comprising:

responsive to execution of the instruction, identifying a function called in the modified routine.

8. The method of claim 1 further comprising:

responsive to execution of the instruction, identifying a program calling the modified routine.

9. A data processing system for monitoring execution of instructions, the data processing system comprising:

associating means, responsive to identifying a routine of interest during execution of a program, for associating instructions in the routine of interest with a set of indicators to form a modified routine; and

incrementing means, responsive to execution of an instruction in the modified routine during continued execution of the program, for incrementing a counter.

10. The data processing system of claim 9 wherein the associating means is a first associating means and the incrementing means is a first incrementing means and further comprising:

second associating means for associating instructions in a second routine of interest with a second set of indicators to form a second modified routine; and

second incrementing means, responsive to execution of an instruction in the second modified routine, for incrementing a second counter.

11. The data processing system of claim 9 further comprising:

executing means for executing the program; and

identifying means for identifying a routine that is used more than a threshold during execution of the program as the routine of interest.

12. The data processing system of claim 9, wherein the set of indicators is located in a shadow memory.

13. The data processing system of claim 9, wherein the associating means comprises:

means for associating an indicator is associated at least one instruction in the modified routine and wherein the indicator is located in a field within the instruction; and

continuing means for continuing execution of the program without recompiling the program.

14. The data processing system of claim 9, wherein the counter provides a value identifying a number of times that the instruction in the modified routine is executed.

15. The data processing system of claim 9 further comprising:

identifying means, responsive to execution of the instruction, for identifying a function called in the modified routine.

16. The data processing system of claim 9 further comprising:

identifying means, responsive to execution of the instruction, for identifying a program calling the modified routine.

17. A computer program product in a computer readable medium for monitoring execution of instructions, the computer program product comprising:

first instructions, responsive to identifying a routine of interest during execution of a program, for associating instructions in the routine of interest with a set of indicators to form a modified routine; and

second instructions, responsive to execution of an instruction in the modified routine during continued execution of the program, for incrementing a counter.

18. The computer program product of claim 17 further comprising:

third instructions for associating instructions in a second routine of interest with a second set of indicators to form a second modified routine; and

fourth instructions, responsive to execution of an instruction in the second modified routine, for incrementing a second counter.

19. The computer program product of claim 17 further comprising:

third instructions for executing the program; and

fourth instructions for identifying a routine that is used more than a threshold during execution of the program as the routine of interest.

20. The computer program product of claim 17, wherein the set of indicators is located in a shadow memory.

21. The computer program product of claim 17, wherein the first instructions comprise:

first sub-instructions for associating an indicator is associated at least one instruction in the modified routine and wherein the indicator is located in a field within the instruction; and

second sub-instructions for continuing execution of the program without recompiling the program.

22. The computer program product of claim 17, wherein the counter provides a value identifying a number of

times that the instruction in the modified routine is executed.

23. The computer program product of claim 17 further comprising:

third instructions, responsive to execution of the instruction, for identifying a function called in the modified routine.

24. The computer program product of claim 17 further comprising:

third instructions, responsive to execution of the instruction, for identifying a program calling the modified routine.